DOCUMENT RESUME

ED 081 486 PS 006 737

AUTHOR Selman, Robert L.
TITLE A Structural Analysis of the Ability to Take Another's Social Perspective: Stages in the Development of Role-Taking Ability.
PUB DATE 29 Mar 73
NOTE 31p.; Paper presented at the biennial meeting of the Society for Research in Child Development (Philadelphia, Pennsylvania, March 29, 1973)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Early Childhood; *Logical Thinking; Longitudinal Studies; Models; Moral Values; *Role Playing; Self Concept; *Social Development; *Socialization; Social Values
IDENTIFIERS *Piagetian Stages

ABSTRACT

This report focused on the analysis of the concept of social role-taking (social perspective-taking) from a structural or Piagetian point of view. The stages of social role-taking were defined, in accordance with structural criteria, to try to indicate why, for a given stage, each aspect of the stage logically implied each other aspect. The description attempted to make clear that the definition of an invariant sequence of stages implies a logical order among the stages, that is, that Stage 2 must imply Stage 1 but must not imply Stage 3. Such logical order within a stage and between stages implies that the stages themselves involve logical social operations or social relations. The longitudinal and cross-sectional data seem to support this structural-developmental point of view of the concept of social role-taking. Tables and questionnaires are included. (Author/ST)

FILMED FROM BEST AVAILABLE COPY

ED 081486

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A Structural Analysis of the Ability to Take Another's Social Perspective: Stages in the Development of Role-Taking Ability

Robert L. Selman
Harvard University

This paper was presented to the Society for Research and Child Development, Philadelphia, Pennsylvania, March 29, 1973

PS 006737

I. Introduction: The Theoretical Framework

The purpose of this paper is to report a conceptual analysis of social role-taking as well as the results of several empirical studies designed to examine the question, "Can social role-taking, or perhaps more precisely, social perspective-taking ability, be defined according to an ontogenetic sequence of stages similar in form and theoretically linked to Piaget's cognitive and Kohlberg's moral reasoning stages?" There have been reported, recently, a number of studies which indicate a parallel structural correspondence between Piagetian stages of cognitive development and moral stages, such that the Piagetian stages are seen as necessary but not sufficient conditions for the parallel moral stages (Colby, Fritz, and Kohlberg, 1973). Our research has focussed on an analysis of social role-taking ability which we feel meets Piagetian criteria for stages and which, as with cognitive stages, seems to indicate a necessary but not sufficient relation of social role-taking to parallel moral judgment stages. Conceptually, role-taking stages are seen as intermediary between cognitive and moral stages. (See Table 1.)

From this point of view, the child's cognitive stage indicates the general level of the child's ability to solve problems, his social perspective taking stage, his level of ability to understand social relations in particularly social problems, and his stage of moral judgment - the manner in which the child prescribes a resolution to social conflicts. (Selman

and Kohlberg, 1973).

I hope to do the following things in this paper, and do them in the order listed. First, to define how role-taking fits into a structural-developmental framework. Second, to describe an empirically and conceptually derived series of social role-taking stages which meet Piagetian stage criteria. Third, to present a method for the study of this concept.

If you are becoming bored with research which tries to apply Piagetian stage approaches to the study of children's conceptions of such things as refrigerators and stoves, than you have my sympathy. By contrast, I do not think that the study of role-taking ability can be reduced to the application of specific Piagetian logical stages to a particular content area. My point is not that children's physical cognitions are less important than their social cognitions, but that whereas certain applications of Piagetian stage analyses may be basically trivial, the analyses of social perspective-taking stages is not. Our straw man, the child's conception of the refrigerator, has an extremely narrow content area, and it is unclear what form this conception has other than those defined by Piaget's stages of physical cognition. Social perspective-taking, on the other hand, defines both a broad range of social content (inferences about other's needs, intentions, beliefs, emotional life, intellectual capacities, etc.) and a particular and uniquely social series of forms which I hope to elaborate in this paper. Furthermore, unlike refrigerators, role-taking has a long-standing tradition as a theoretical concept of basic

importance to developmental and social psychology. The theoretical writings of George Herbert Mead (1934) and James Mark Baldwin (1906) have made clear that social cognition and judgment differ from the cognition of physical objects (refrigerators, stoves) because it uniquely involves "role-taking," the ability to understand the self and others as subjects, to react to others as like the self, and to react to the self's behavior from the others' point of view (Kohlberg, 1972, p. 140). Stemming in part from this tradition, the historical origin of the concept of social role-taking is based in Piaget's well known and perhaps infamous conception of egocentrism, the inability to take another's perspective. Although egocentrism is seen as basically a disease of early childhood, like many exotic and undiagnosible ailments its symptoms seem to mysteriously errupt at various later periods in life. Clarification is necessary.

An initial attempt to clarify this concept through systematic empirical investigation was Flavell's study of visual and social role-taking (as compiled in his book, The Development of Role-taking and Communication Skills in Children, 1968). The use of the term role-taking was somewhat unfortunate because Flavell's research was only tangentially involved with the study of the child's conceptions of social roles, as this term is commonly used by sociologists. Rather, it was an attempt to study the development of children's ability to take or make inferences about another's perspectives, either his visual or his social viewpoint. Furthermore, although Flavell's measures

were ingenious and his results informative, from a structural point of view there was a basic difficulty with his approach. Even though Flavell's methods and conceptualizations focussed on social thought process, his analysis was basically functional, or from the viewpoint of a stage approach, horizontal. Although such an analysis is useful, and, in fact, we are interested in the process by which role-taking ability is applied, in our case, to moral judgments, lacking in Flavell's analysis was a direct and unified attempt to identify a sequence of qualitative vertical levels of this ability described in formal or structural terms.

Such a structural or vertical approach implies that the following criteria need to be met for a particular concept to be considered amenable to an analysis by stages:

1. The concept can be described according to a series of qualitatively distinct forms or patterns of thinking with regard to a particular content area.
2. Stages imply invariant order or sequence under varying environmental conditions.
3. Stages imply a "structured whole," a deep structure or organization uniting a variety of superficially different types of response.
4. Stages are hierarchical integrations, i.e., higher stages include lower stages as components reintegrated at a higher level. Lower stages, then, are in a sense available to, or comprehended by, persons at a higher stage.

According to these criteria, a structural conception of role-taking must have a series of forms and a specified content which interact with one another, i.e., a sequence of rules or organizational principles by which the particular content area is organized and interpreted by the subject. In general terms, our formal or structural aspect of role-taking is defined as the development of the understanding of the nature of the relation between the self's and other's perspectives. Each new role-taking structure can be seen as being built upon the previous one but restructuring it in a qualitatively more advanced way. (See Table 1-A.)

The social-informational content upon which this sequence of role-taking structures operate is the developing understanding of just what is a social being, i.e., another's capabilities, attributes, expectations, feelings, motives, potential reactions, and social judgments. Role-taking content may be seen as the subject's own theory of the social psychology of the minds of others. In other words, as one progresses through the stages of role-taking, one has a more mature conception of the complexity of human relations (role-taking structure) and of the social thought processes and motivations of the minds of self and others (role-taking content). As role-taking structures develop, so does the breadth and depth of role-taking content.

PS 00673

II. Stage description and method of analysis

The stages of social role-taking, as they are defined briefly in Table 1-A, emerged from the analysis of empirical data consisting of transcriptions of open-ended taped interviews with subjects at different ages responding to questions and situations regarding both social and moral dilemmas.

For each subject, transcriptions of interviews range from fifteen to fifty pages in length. For the purposes of the present report which is focussed on the analysis of the concept of social role-taking, and not on the assessment of a given individual's level of general functioning, we score for the highest social role-taking stage clearly and consistently evidenced throughout the interviews.

Such social role-taking stages are scored on the basis of: a) the subject's ability to differentiate perspectives and to understand the relativity of different perspectives (a structural aspect-differentiation), b) the subject's understanding of the relationship of the perspective of one person to the perspective of the other (a second structural aspect-integration), and c) the psychological content of the self of one person as considered by another. This latter aspect refers to the social perspective-taking content logically implied by the structure of a given stage.

Social role-taking scores are obtained from two sources: 1) role-taking exhibited within the context of moral dilemmas and 2) role-taking in dilemmas which emphasize a social situation

which involves several perspectives but which does not call for moral judgments. However even in the latter dilemmas, the subject may make prescriptive as well as descriptive social judgments. One cannot prescribe non-moral thoughts in young children.

Although one general goal of our research is to describe as accurately as possible the ontogenesis of social role-taking from its origins in the initial internalized mental operations of the young child to its most complex and integrated form, I will present today, within the context of this symposium and its emphasis on the early development of social role-taking and its relation to justice conceptions, a brief description of both the structural and content aspects of those stages most often evidenced in the thinking of children between the ages of four and ten. I will then close with a brief report of the results of two empirical studies across a wide range of ages undertaken to test the social role-taking stage descriptions according to the previously mentioned criteria for stages.

A. Stages in the Development of Social Role-Taking (Social Perspective-Taking)

Stage 0: Egocentric role-taking (about ages 4 to 6):

1. Structural aspect: There is a lack of distinction between a subjective view of a social situation and possible alternative views, i.e., the child makes no distinction between a personal interpretation of social action (either by the self or other) and what he considers the true or correct perspective.

Therefore, although the child can differentiate self and other as entities, he does not differentiate their perspectives.

2. Content aspect: The predominant psychological and social knowledge of the child whose thinking is at Stage 0 derives from his observation of the overt psychological states of self and other. At Stage 0 the child is able to "predict" or read off other's emotions (such as sad, mad, happy) in those situations in which the child would also know his own response. But when reasons are asked to explain why people take a certain action, the child's responses are not reasons seen as causes for actions; in essence, the reasons are seen at the same level as the actions themselves; a) because the social world which the child views at Stage 0 is on the plane of overt action, not on the plane of internal social or psychological data, and b) because the child lacks the social-cognitive ability to see the cause-effect relation of reasoning to action which defines, in part, human subjectivity.

3. Content-structure relation: The logical relation between content and structure at Stage 0 is best understood within the context of Piaget's concept of "realism." The social world is not interpreted by others, the data are simply "as it seems." Therefore there is little distance between the subject and the

objective world. Other people inhabit the social world but they do not interpret it, they do not reflect upon its meanings.

Stage 1: Simple informational role-taking (about ages 6 to 8):

1. Structural aspect: At Stage 1 the child realizes that others may have a different way of viewing, judging, or interpreting a social action or social situation, depending, in particular, upon the amount of information that each subject is privy to. Given a social situation involving different actors, the child realizes that these actors may see the situation in a similar way, but that they may not. In other words, self and other are now seen as subjects with potentially different interpretations of the same social situation, largely determined by the data they have at hand.

2. Content aspect: Whereas at Stage 0 the child's model for a person was that of an information collector, i.e., someone who could understand social data, now the child sees other persons as information processors, i.e., interpreters of social situations. Thus the child understands that to be a subject (a person) now means that one has evaluative abilities and that both self and other can make distinctions between purposive (intentional) and accidental (unintentional) actions. The stage one child's understanding of intentionality is a marked improvement over his Stage 0 counterpart

insofar as he now has a model of man in which social reasons are causes for choices or actions, that is, reasons underlie the actions of both self and other.

3. Content-structure relation: The logical relation between role-taking content and structure at Stage 1 is based upon the new, yet still limited, conception of self and others as subjects. Awareness, by the child, of the concept of the subject indicates: first, that each person has his own point of view (structure), and second, that one can impute a limited set of covert aspects of other's point of view (content—the intention underlying the overt action).

Stage 2: Self-reflective role-taking (about ages 8 to 10):

1. Structural aspect: The child is now clearly aware that the discoveries he made at Stage 1 about self's and other's subjectivity are also known to other. The core structure of Stage 2 is the realization that the very fact that other can view the self as a subject, i.e., that other can scrutinize the actions, thoughts, feelings, and reasoning of the self, influences one's own (the self's) perspective of other. In other words, one's own subjective view of other incorporates other's taking the point of view of the self. Stage 2 social role-taking is qualitatively more adequate than Stage 1 not simply because there is the realization that other sees the self as a subject, but because

there is the realization that to take other's point of view in a dyadic interaction is to include other's taking of the self's perspective.

2. Content aspect: The child is aware: a) that both self and other each within his own mind has a hierarchy or set of ordered priorities of psychological likes and dislikes related to concrete social actions, b) that self and others weigh social actions with respect to their own reasoning, and c) that self is aware that other can consider the intentionality or unintentionality of self's actions just as the self can do similarly with regard to other (simple reciprocity). At Stage 1, the child became aware that other had psychological reasons for actions. At Stage 2, he is aware that other may have a hierarchy of reasons (or perhaps, even conflicting reasons leading to opposing choices with regard to a single action).

3. Content-structure relation: The logic of the relation of role-taking structure and content at Stage 2 is as follows: the ability to view other viewing the self implies the corresponding ability to step outside the self and reflect upon the self's thoughts (hence, self-reflective). In this way the child sets up a system for reflecting on (valuing) his own reasons, and in turn he can order the reasons of other (at least as he views the reasons, if not as other views them). This operation also allows him to compare his own reasons

with the reasons of other (role-taking content).

In general by age 10, most middle-class subjects have reached Stage 2. However some show evidence of thinking at the next stage. For a complete description of higher stages and the scoring of the stages just described, I refer you to a scoring manual that we have prepared. (Selman and Byrne, 1973.)

In reading our descriptive analysis of these stages, I am aware that the proof of the pudding is not simply in the logic of the analysis but in the ease in which children's verbalizations yield to all of us, with some agreement, evidence of the reality of such mentalistic processes. To really test the analysis we need some cases. However the presentation of several complete cases at different stages is simply not practical here. The alternative is to present some excerpts, a strategy which can be misleading because the essence of structural analysis is to score modes across a range of thought, not isolated sentences.

Nevertheless, I will try to use excerpts in the hopes of leaving you with some mooring anchored in a data base. In one story we use with young children, a young girl named Holly, who has promised her father not to climb trees, is confronted with a situation in which a kitten is caught up in a tree and the only way to save it is for her to break her promise and climb the tree. In listening to the following excerpts of the reasoning of young children about this moral dilemma, let us try to focus on the role-taking involved.

In response to the question, Do you think Holly's father will get angry if he finds out that Holly climbed the tree, a child whose thinking was scored at Stage 0 said, "No, he will be happy, he likes kittens." Why will that make him happy? "I like kittens." This child does not seem to orient to the integration of points of view of any of the participants in the situation. Everyone focusses on the kitten and not on what each other thinks about the situation or other's thoughts.

A subject's response to the same question which would be scored as being at least at Stage 1 goes as follows: "If he didn't know why she climbed the tree he would be angry. But if he knows why Holly did it, he will realize she had a good reason." This subject recognizes that one person (father) can understand the intentions of another (Holly). It also indicates the awareness that each needs similar information to make similar judgments.

At Stage 2, reasons might sound like this ten year old's response to the same question. "He knows that Holly will think about how he would feel. He knows that Holly would realize that he would think it is allright. And so he will think it's okay for her to climb the tree." What if Holly doesn't think about what he thinks is right?' "Then he will be angry at her." Here the subject has the father consider the daughter's taking his position as a factor in her role-taking judgment about what the father will think Holly will do.

B. Empirical Studies

To date we have completed two studies of the development of social role-taking (Selman and Kohlberg, 1973; Selman, Damon, and Gordon, 1973) and are presently completing a third which is focussed on higher stages of role-taking (Byrne, Selman, and Kohlberg, 1973). I will briefly report the findings of the completed studies.

In Study I, subjects were ten boys, all cases taken from the Kohlberg fifteen-year longitudinal study of social and moral development. Although the sample was small, each subject was interviewed five times over the course of the study, first at age ten and then at four subsequent three-year intervals for a total of ~~forty-seven~~ interviews (three missing). At each interview, subjects were given ten open-ended socio-moral dilemmas. These standard interviews were analyzed according to the descriptive structural role-taking scheme of stages defined in a scoring manual developed by the author. At each interview, each subject was assigned a role-taking stage which represented his highest level of role-taking consistent across the dilemmas. A second scorer using the scoring manual scored twenty of the interviews (four complete cases) without knowledge of case or longitudinal order.

The reliability of the procedure was determined by two methods. The first was to calculate a percentage agreement between two raters, as well as percentage disagreement by one stage, two stages, etc. Percentage perfect agreement was .85 with percentage one stage disagreement being .15. Correlational

interjudge reliability was .83. Although the number of longitudinal cases is small (10), limiting definitive statements about invariant sequence of stages, the total number of interviews (47) over five ages is large enough to allow both descriptive and inferential statistical analyses. Table 2 presents the major role-taking scores for each subject at each interview. The association between role-taking stages and age was significant ($r = .88$, $p < .001$).

A test for the invariant sequentiality of the role-taking stages using the longitudinal data was made by examining the changes in each subject's stage which occurred from any given interview (x) at time one, to the next interview period (x + 1) at time two. For each subject, four such comparisons were made. The three missing interviews reduce the total comparisons to 35 (out of a possible 40). Table 3 indicates that there were no subjects scored at a lower role-taking stage at a later time period (x + 1) than at time (x) supporting the claim that the stages define a cumulative ordinal scale. The data also indicate that no subject jumped two stages over the three-year intervals. (However, such a jump within three years would not be data in opposition to a cognitive-developmental theory of invariant sequence.) Results of this study supported the invariant sequence, age developmental hypotheses of the nature of the development of role-taking stages.

Study 2 applied the same stage system to a cross-sectional study of forty middle-class boys and girls, ten at each of 4, 6, 8, and 10. Modifications in the dilemmas approach from those

used in Study 1 were made: a) to develop both moral and social role-taking dilemmas more appropriate for children within this age range, and b) to add probe questions more specifically designed to tap the child's role-taking stage. A testing-the-limits approach was used for scoring social role-taking. Subjects were scored for the highest stage of role-taking clearly elicited during the interview. Percentage perfect agreement between trained scorers was .92; percentage one stage off was .08. Reliability as measured by rank order correlations was .89. Results indicated a significant relation of role-taking stage to age but not to sex differences. Furthermore, the correlation between role-taking stage scores on the moral and social dilemmas was .96 when these situations were scored separately. Table 4 presents the percentage of subjects at a given role-taking stage at a given age.

Summary

This report has focussed on the analysis of the concept of social role-taking (social perspective-taking) from a structural or Piagetian point of view. The stages were defined, in accordance with structural criteria, in such a way as to try to indicate why, for a given stage, each aspect of the stage logically implied each other aspect. Furthermore, the description attempted to make clear that the definition of an invariant sequence of stages implies a logical order among the stages, that is, that Stage 2 must imply Stage 1 and must not imply Stage 3. Such a logical order within a stage and between stages implies that the

stages, themselves, involve logical social operations or social relations. Our present longitudinal and cross-sectional data seem to support this structural-developmental point of view of the concept of social role-taking.

REFERENCES

Baldwin, J. M. Social and ethical interpretations in mental development. New York: Macmillan, 1906.

Byrne, D., Selman, R., & Kohlberg, L. Role-taking development from age ten to adulthood: A structural analysis. In preparation.

Colby, A., Fritz, B., & Kohlberg, L. The development of logical and moral judgments. In Kohlberg, L., & Turiel, E. (Eds.), Recent research in moral development. New York: Holt, Rinehart and Winston, 1973.

Damon, W. The relation of cognitive and moral development in children four to ten. Unpublished doctoral dissertation, University of California at Berkeley, Berkeley, California, 1973.

Flavell, J. The development of role-taking and communication skills in children. New York: John Wiley, 1968.

Giraldo, M. Egocentrism and moral development. Unpublished doctoral dissertation, Catholic University, Washington, D. C., 1972.

Kohlberg, L. The development of modes of moral thinking and choice in the years ten to sixteen. Unpublished doctoral dissertation, University of Chicago, 1958.

Kohlberg, L. Stage and sequence: The cognitive-developmental approach to socialization. In Goslin, D. (Ed.), Handbook of Socialization: Theory and Research. New York: Rand-McNally, 1969.

Kohlberg, L. From is to ought: How to commit the naturalistic fallacy and get away with it in the study of moral development. In Mischel, T. (Ed.), Cognitive development and epistemology. New York: Academic Press, 1971.

Kuhn, D., Langer, J., Kohlberg, L., & Haan, N. The development of formal operations in logical and moral judgment. Unpublished manuscript, Columbia University, Department of Psychology, 1971.

Mead, G. H. Mind, self and society. Chicago: University of Chicago Press, 1934.

Moir, D. Egocentrism and the emergence of conventional morality in pre-adolescent girls. Master's thesis, University of Canterbury, Christchurch, New Zealand, 1971.

Piaget, J. The moral judgment of the child. Glencoe, Illinois: Free Press, 1948.

Piaget, J., & Inhelder, B. The growth of logical thinking from childhood to adolescence. New York: Basic Books, 1958.

Selman, R. The relation of role-taking to the development of moral judgment in children. In Child Development, 1971, Vol. 42, No. 2, pp. 79-92.

Selman, R. Manual for scoring stages of role-taking in moral and non-moral social dilemmas. Unpublished paper, Harvard University, 1972.

Selman, R., Gordon, A., & Damon, W. The relation of stages of social role-taking and social justice in children ages four to ten. Paper submitted to Eastern Psychological Association, November, 1972.

Selman, R., & Kohlberg, L. The relation of stages of social perspective-taking to moral development: A theoretical and empirical analysis. In Kohlberg, L., & Turiel, E. (Eds.), Moral Development: A cognitive-developmental approach. New York: Holt, Rinehart and Winston, 1973.

White, S. What should be the goals of child socialization and education efforts and how should they be implemented? Unpublished manuscript, Harvard University, 1973.

TABLE 1

Parallel Relations Among Logical, Social Role-Taking and Moral Judgment Stages

(All relations are that attainment of the social role-taking stages is necessary but not sufficient for attainment of the moral stage and that the logical stage is necessary but not sufficient for attainment of the social role-taking and moral stage.)

Logical Stage	Social Role-Taking Stages	Moral Judgment Stages
Preoperational Thought (I-A and I-B) No reversibility of operation of thought. Confusion and lack of differentiation between cause and effect. Centration on a single, striking feature of the object of reasoning to the neglect of other important aspects. No justification of reasoning to others, nor of examination of possible contradictions in his logic. Social and logical domains undifferentiated. Focus on states rather than transformations. Child has difficulty seeing the similar-appearing members of a given class as distinct and different individuals.	Stage 0 - Egocentric Viewpoint Child has a sense of differentiation of Self and Other but fails to distinguish between the social perspective (thoughts, feelings) of Other and Self. Self and Other seen as information collectors, but not information processors. Child can label other's overt feelings but does not see the cause and effect relation of reasons to social actions (ages four to six).	Stage 0 - Premoral Stage Judgments of right and wrong based on good or bad consequences and not on intentions. Moral choices derive from the subject's wishes for good things to happen to Self. Reasons for choices and the choices themsleves are undifferentiated: reasons simply assert the choices, rather than attempting to justify them.

Concrete Operations - Substage 1 (II-A) - Reversibility of thought processes. Actions performed on objects to bring them together into classes of various orders or to establish relations between them.	Stage 1 - Social Informational Role-Taking Child is aware that Other has a social perspective based on Other's own reasoning which may or may not be similar to the Self's. Other is seen as a subject, i.e., as being able to differentiate intentional and unintentional acts and as being a processor or interpreter of social data. Child can focus on only one perspective at a time (ages six to eight).	Stage 1 - Punishment and Obedience Orientation Child focuses on one perspective, that of the authority or the powerful. However, child understands that good is based on good intentions. Bad consequences based on good intentions still seen as being right or good.
Substage 2 (II-B) - Relates inverse operations to reciprocal operations but does so in a chaining method based on the empirical data. Can proceed from one dimension to the next but can not solve multifactor situations in which variables are mixed.	Stage 2 - Self-Reflective Role-Taking Child is aware that each individual is aware of the other individual's perspective. One's view of the other is influenced by the fact that other can be aware of self's view. The other's view is influenced by the fact that self can be aware of the other's view. Putting self in other's place is a way of judging his intentions, purposes, and actions.	Stage 2 - Instrumental Orientations Moral reciprocity conceived as the equal exchange of favors or blows. If someone has a mean intention toward Self, it is right for Self to act in kind. Right defined as what is valued by Self in comparison to that which is valued by Other.

Formal Operations Substage 1 (III-A) - Organization of a combinatorial structure analogous to a complete lattice. Reversibility operations of inversion (for classes) and reciprocity (for relations) begin to be integrated into a single system (the INRC group structure of inversions and reciprocities).	Stage 3 - Mutual Role-Taking Child realizes that both Self and Other can view each other mutually and simultaneously as subjects. Child steps outside of the two person dyad and views the interaction from a third person perspective (ages ten to twelve).	Stage 3 - Orientation to Maintaining Mutual Expectations The right is defined as the Golden Rule: Do unto others as you would have others do unto you. Child considers all points of view and reflects on each person's motives.
Substage 2 (III-B) Complete integration of combinatorial structures (lattices and 16 binary operations) with the group properties of the INRC group which coordinates inverse (negation) and reciprocal operations.	Stage 4 - Social and Conventional System Role-Taking Subject realizes that mutual perspective-taking does not always lead to complete understanding. Social conventions are seen as necessary because they are understood by all members of the group and are used as means of communicating to others and of understanding Other's behavior and reactions (ages twelve to fifteen+).	Stage 4 - Orientation to Society's Perspective Right is defined in terms of the perspective of the generalized Other or the majority, to maintaining a stable social system and one's own character. A consideration of consequences for the group or society including the impact of the act upon the general expectations of members of society.

TABLE 1-A

Brief Structural Description of Social Role-Taking Stages

Level	Operation	Description
0	$S \dashrightarrow X = 0 \dashrightarrow X$	Stage 0: Emerging understanding that others have subjective perspectives.
		Stage 0-A: Subject has a sense of differentiation of self and other but fails to distinguish between the social perspective of other and self.
		Stage 0-B: Subject views self and other as subjects who think about their actions as separate perspective takers, but assumes that all others will have views similar to his own.
1	$S \dashrightarrow 0 \dashrightarrow X_0$	Stage 1: Recognition of the separateness and uniqueness of self and other, that self and other may see a social situation in very different ways.
		Stage 1-A: Subject is aware that other has social perspective based on other's own reasoning which may or may not be similar to the self's.
		Stage 1-B: Subject is aware that other may be thinking about a third person or about himself as a subject, but does not base his actions on that knowledge.
2	$S \longrightarrow 0 \dashrightarrow X_s$	Stage 2: The discovery that other can view the self as a subject just as the self can view the other as a subject; the child can view the relation of self and other from other's viewpoint.
		Stage 2-A: Subject is aware that his own subjectivity is under scrutiny by the other and that his view of other is based, in part, on other's view of the self.
		Stage 2-B: Subject is aware that other not only can take the self's perspective, but also that other is aware of the self taking other's perspective.
3	$S \rightarrow (0 \rightleftarrows S)$	Stage 3: Perspectives are taken in a mutual and simultaneously systematic way rather than in a sequential manner.
		Stage 3-A: Subject realizes that both self and other can consider each other's point of view simultaneously and mutually. Subject steps outside the two-person situation and achieves a third-person perspective on the dyadic interaction.
		Stage 3-B: Subject sees all others as being able to achieve a third person perspective.

TABLE 1-A (CONTINUED)

Level	Operation	Description
4	$S \rightarrow \begin{bmatrix} S \rightarrow (O \rightleftharpoons S) \\ \updownarrow \\ O \rightarrow (O \rightleftharpoons S) \end{bmatrix}$	Stage 4: Subject realizes that both self and other understand that both parties can remove themselves hypothetically from the situation and view its dynamics. Stage 4-A: Subject realizes that mutual perspective-taking does not always lead to complete understanding; social conventions are seen as necessary because they are understood by all members of the group and are used as a means of communicating to others and of understanding other's behavior and reactions. Stage 4-B: Subject is aware of the relativity of individual and social group perspectives, that each other interprets the social "facts" according to his own system of analysis which is influenced by his own history, his social system, emotional state, and so on.

Nomenclature:

A. Representation of Persons

1. S = subject or self
2. O = other or others
3. X_o = person considered as an object of the social cognition of self or other
4. X_s = person considered as a subject with thoughts, feelings, motives

B. Representation of Mental Operations of Social Thought

1. $\leadsto$ A general act of social cognition. May be perspective-taking operation, but may only be an inference about another
2. $\rightarrow$ Specific, contentless perspective-taking operation, a putting of self in other's place
3. $\rightleftharpoons$ Mutual perspective-taking.

TABLE 2

Major Role-Taking Stage Scores for Each Longitudinal Subject at Each of the Five Interviews

Case Number	Interview 0 Age 9-10 RT	Interview A Age 12-14 RT	Interview B Age 16-17 RT	Interview C Age 19-20 RT	Interview D Age 22+ RT
2	2	3	4	4	4+
3	2	3	4	4	4
4	2	3	4	4	4
5	2	2	3	3	4
6	2	2	3	4	4
9	2	2	3	X	4
17	2	3	4	4	4
18	3	3	X	4	4
22	2	3	4	4	4+
24	2	3	3	4	X

TABLE 3

Sequentiality Analysis: Changes in Subjects' Predominant Social Role-Taking Stage from Time (x) to Time (x + 1) (in Percentages and Raw Scores).

	Time x + 1			
Time x	Stage 2	Stage 3	Stage 4	Stage 5
Stage 2	25% (3)	75% (9)		
Stage 3		27% (3)	73% (8)	
Stage 4			84% (10)	16% (2)

TABLE 4

Percentage of Subjects at a Given Role-Taking Stage at Each Level of Chronological Age (Ten Subjects per Age Group)

Stage	Age 4	Age 6	Age 8	Age 10
0	80	0	0	0
1	20	100	30	20
2	0	0	60	60
3	0	0	10	20

APPENDIX A

Examples of Role-Taking Questions from the Kohlberg Longitudinal Study

(Study 1)

In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to make. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $1,000 which is half of what it cost. He told the druggist that his wife was dying, and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife.

Role-Taking Questions:

1. Would a good husband steal the drug for his wife?
2. What do you think Heinz would do if he didn't love his wife?
3. Would you steal the drug to save your own life?
4. What would you do if you were Heinz?
5. What do you think the judge will do? What if he were in Heinz's place?

Example of Role-Taking and Justice Questions (Study 2):

Gladys has waited all week to go to the movies. On Saturday, her parents gave her some money so that she could see a special movie in town. Gladys takes the bus. When she gets to the movie theater, there is already a long line with many children waiting to buy tickets. Gladys takes her place at the end of the line. All of a sudden a big gust of wind blows Gladys' money out of her hand. Gladys leaves the line to pick up her money. When she gets back, there are lots more people in line and a new girl named Mary has taken her place. Gladys tells Mary that she was there first and asks Mary to let her back in. Gladys knows that if she goes to the end of the line there may not be enough tickets left to let her into the movie.

Justice

1. What should Mary do? Should Mary let Gladys into line?
2. Is it fair for Mary not to let Gladys back into line?

3. What if Mary and Gladys are really good friends? Should that make a difference to Mary?

4. Is it more important to be fair to a friend or to a stranger?

5. If Gladys left the line to buy some ice cream instead of chasing her money, should that make any difference for what Mary decides to do?

6. What if they were good friends and Gladys left to get some ice cream?

7. Last week Gladys lent Mary a book that Mary wanted to read. Should that make any difference as to what Mary should do now?

8. What if last week Gladys refused to share her new book with Mary? Should that make any difference?

9. What would you do if you were Mary? Why?

Role-Taking

1. Does Mary know why Gladys left the line?

2. Why does it make a difference if Mary does (doesn't) know why Gladys left the line?

3. Does the owner of the movie theater know why Gladys left the line?

4. Now I want you to pretend that I am the movie owner and that you are Gladys, the girl whose money blew out of her hand. I want you to tell me why you think it is right for me to give you the last ticket.

5. Now pretend that you are Mary, the girl who took Gladys' place. I want you to tell me why you think it is right for me to give you the last ticket.

6. Now suppose things were the other way around (suppose it was Mary who lost the money and Gladys took over the spot). What would Mary want Gladys to do? Does that make any difference to Mary now?

7. What if Gladys tells Mary what happened - does that make a difference to Mary?

Appendix B

Social role-taking dilemma

Peter is a new boy at school. He wants to get the kids in his class to like him. His family doesn't have much money, but he thinks that maybe he should give a party in his class. His mother says she'll scrape the money together if he needs it. He can't decide whether to give the party or not.

1. If Peter wants to get the other kids in the class to like him, do you think he should give the party or not? Think about what the kids in the class would be thinking.

2. Do you think the other kids will like him better if he gives them a party?

3. If all the kids found out that Peter's family was very poor and he was spending $10 on the party, what would they think of Peter?

4. What would Peter do if he knew everyone knew his family was poor? Would he give the party to get the kids to like him?

5. What do you think society thinks about people buying friends?

6. Do you agree with society? What is society?

7. The student organization at Peter's school had a meeting to decide whether new students should have parties for their classes. The majority voted "yes" and the results were printed in the school newspaper.

   After reading the results of the vote, Peter got $10 from his mother to give a party for his class. Do you think the other kids will like him better because he gave them a party?

8. What will the kids think about Peter? Will they think he's nice and generous?

9. Why do you think the student organization decided that new kids should give parties for their classmates?